

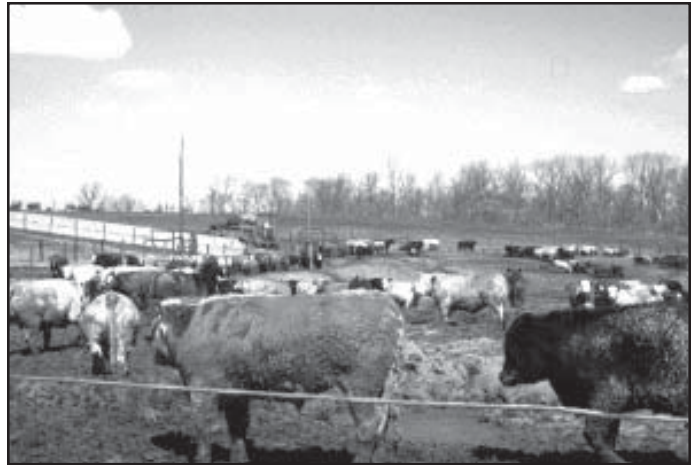
# Environmental Regulations for Open Feedlots

## Minimum Manure Control and Permit Requirements



**New: Adjacency Definition:** If two adjacent open feedlots are less than 1,250 feet apart, they are considered one operation for permitting purposes. **Storm Water Permit:** Needed for one-acre disturbances on construction sites (changed from 5 acres).

*This fact sheet will help you understand what environmental regulations affect your open feedlot operation. It's also designed to help you decide if you need an operation or construction permit to meet state and federal requirements that protect water quality.*



### Background Information

**History:** Iowa has regulated open feedlots since 1969. In 1972, the U.S. Environmental Protection Agency (EPA) began regulating potential sources of pollution under the federal Clean Water Act. The Iowa DNR was given authority to issue operation permits for open feedlots by the EPA. These permits are also called National Pollutant Discharge Elimination System (NPDES) permits. Operation permits include requirements for construction and maintenance of manure control structures to prevent pollution of surface and groundwater.

Rules affecting open feedlots have remained essentially unchanged since 1987. These are the current requirements.

**Who's Affected?** If you have an open feedlot of any size, you are required to meet the minimum requirements for manure control and land application. Some feedlots are required to have an operation permit. If you need an operation permit, then you also need a construction permit for the required manure control structures.

### Minimum Manure Control Requirements

#### For All Open Feedlots:

- The minimum level of manure control for any open feedlot is the removal of settleable solids from the manure prior to discharge into a water of the state<sup>1</sup>. Additional requirements must be met by facilities that need a permit (*see section in this publication on Operation Permit Information*).
- Structures such as solids-settling basins, terraces or diversions that are designed to settle and remove solids from the runoff are required at all open feedlots, unless existing site conditions provide adequate settleable solids removal.

**1. Water of the state** is any stream, lake, pond, marsh, watercourse, waterway, well, spring, reservoir, aquifer, irrigation system, drainage system, and any other body or accumulation of water, surface or underground, natural or artificial, public or private, which are contained within, flow through or border upon the state or any portion thereof.

## Minimum Manure Control Requirements (cont.)

\* The size of a runoff control basin is primarily dependent upon 1) the size of the drainage area, and 2) the frequency of dewatering and land application. The amount of storage increases proportionally with the amount of the drainage area and decreases as the frequency of land disposal increases.

- Greater or lesser manure control may be required to provide an adequate level of pollution control for specific animal feeding operations. Depending on site topography, operation procedures, experience, or other factors, the DNR may establish different manure control requirements for a specific animal feeding operation.
- No direct discharge shall be allowed from an animal feeding operation<sup>2</sup> into a publicly owned lake, a sink-hole, or an agricultural drainage well.
- If the DNR determines manure from an operation is causing or may reasonably be expected to cause a violation of state water quality standards an operation must institute necessary remedial actions to eliminate the condition.
- All manure removed from an animal feeding operation or its manure control facilities shall be land-applied in a manner which will not cause surface or groundwater pollution. Manure management plans are recommended for open feedlots, but not required. *(For more information on land application requirements and recommendations, see the DNR fact sheet on **Separation Distances for Land Application of Manure**, the **Manure Management Plan Form** or Extension Publication **PM 1811: Managing Manure Nutrients for Crop Production**. The DNR fact sheet is available at DNR field offices and on the DNR animal feeding operations website. Manure management plan forms are available in DNR, Extension and NRCS offices, and on the DNR website. PM 1811 is available at local Extension offices.)*

**2. Animal Feeding Operation:** a lot, yard, corral, building, or other area in which animals are confined and fed and maintained for 45 days or more in any 12-month period, and all structures used for the storage of manure from animals in the operation. An animal feeding operation does not include a livestock market. Two or more animal feeding operations under common ownership or management are considered to be one operation if they are adjacent or use a common area or system for manure disposal or storage.

### For Open Feedlots Required to have an Operation Permit:

Retain all manure flows from the feedlot areas and all other manure-contributing areas resulting from the 25-year, 24-hour precipitation event.\* [See pages 33 to 45 of Appendix A of Chapter 65 of the Iowa Administrative Code (IAC) for design information and requirements. Rules can be found on the Iowa General Assembly's web site at <http://www2.legis.state.ia.us/IAC.html>]

## Operation Permit Information

**4. Confinement Feeding Operation** is an animal feeding operation in which animals are confined to areas which are totally roofed.

**Does Your Feedlot Need an Operation Permit?** There are four steps to determine if your open feedlot needs an operation permit.

**1** First, it's essential to decide if you have an open feedlot. Producers can determine if they have an open feedlot by reading through definitions for animal feeding operations<sup>2</sup>, open feedlots<sup>3</sup> and confinement feeding operations<sup>4</sup>.

**2** If you have an open feedlot, you need to determine if the feedlot capacity is greater than 1,000 animal units<sup>5</sup>. You need an operation permit if the capacity of the feedlot exceeds any of the following:

**3. Open Feedlot:** an unroofed or partially roofed animal feeding operation in which no crop, vegetation, or forage growth or residue cover is maintained during the period that animals are confined in the operation.

- 1,000 beef cattle
  - 700 dairy cattle
  - 500 horses
  - 2,500 swine (more than 55 lbs.)
  - 1,000 animal units
- (See Step Number 4 for an exception to this requirement.)

**Calculating Animal Units:** To determine the animal unit capacity of an open feedlot that has one species, multiply the number of animals by the appropriate equivalency factor from the table below. To determine the animal unit capacity of an open feedlot that has two or more animal species, multiply the capacity for each species by the appropriate equivalency factor from the table below and add the totals together. (See example\*\* at left.)

**\*\* Example:** An open feedlot has 800 beef cattle and 400 butcher swine. How many animal units are in the feedlot?

800 cattle x 1.0 equiv. factor = 800  
 400 hogs x 0.4 equiv. factor = 160  
 Total animal units = 960

**Conclusion:** because the total is less than 1,000 animal units, a permit application is not required.

**5. Animal unit** is a unit of measurement used to determine the animal capacity of an animal feeding operation, based upon the product of multiplying the number of animals in each species by the following:

Slaughter and feeder cattle.....	1.0
Mature dairy cattle.....	1.4
Butcher and breeding swine, over 55 pounds.....	0.4
Swine between 15 & 55 pounds.....	0.1
Sheep or lambs.....	0.1
Horses.....	2.0
Turkeys.....	0.018
Broiler or layer chickens.....	0.01

**3** Third, if your capacity is 1,000 animal units or less, but more than 300 animal units, you need an operation permit if your feedlot discharges directly to a water of the state, either through a man-made drainage system<sup>6</sup> such as a drainage ditch or because a stream runs through the feedlot. You need an operation permit if you meet the above conditions and your feedlot capacity exceeds any of the following:

- 300 beef cattle
- 200 dairy cattle
- 750 butcher and breeding swine (more than 55 lbs.)
- 150 horses
- 300 animal units

**4** Fourth, under Iowa regulations, feedlots that fit steps number 2 and 3 above need an operation permit. Under federal law, there is an exemption for feedlots that do not discharge except when there is a 25-year, 24-hour storm event. Check with a registered professional engineer or the DNR to determine if your feedlot meets that exemption.

**6. Man-made manure drainage system** is a drainage ditch, flushing system, or other drainage device which was constructed by human beings and is used for the purpose of transporting manure.

## Permit Contents

An operation permit describes the minimum waste control requirements that a feedlot must follow. The permit also lists monitoring and reporting requirements, acceptable methods for manure disposal, as well as other conditions the DNR determines necessary to prevent water pollution.

## Application Deadlines

New or existing open feedlots that are planning to expand must apply for a new or revised operation permit at least 180 days before the new or expanded feedlot is scheduled to begin operation. However, operation of a new or expanded feedlot may begin once an operation permit has been obtained.

Operation permits must be renewed every five years. Applications for renewal of an operation permit must be submitted at least 180 days before the permit expires. Feedlots that need an operation permit, but have not applied for a permit, must do so as soon as possible. Until the application is received by the DNR, these operations violate DNR rules.



**Left: Runoff control basin** at a dairy farm in northwest Iowa.

*Estimates of ammonia content in raw liquid runoff from earthen open feedlots range from 300 to 750 ppm.*

*Depending on water temperatures and oxygen levels, fish kills begin to occur when ammonia concentrations reach approximately 3 ppm.*

## Construction Permit Information

### Permit Contents

**Application Requirements:** Any open feedlot that is required to have an operation permit, must obtain a construction permit before the waste control system is constructed, installed or modified.

### Application Deadlines

An application must be submitted at least 90 days before construction is scheduled to begin. Feedlots required to have an operation permit because of an expansion that did not obtain a construction permit before the expansion must still apply for an operation permit and submit the supplemental information required for construction (*See Step 2 under Supplemental Information Required*).

### Required Separation from Wells

All feedlots, runoff control basins and settling basins built or expanded after March 20, 1996 are required to meet the following minimum separation distances from wells.

Type of Structure	Public Well		Private Well	
	Shallow <sup>7</sup>	Deep <sup>8</sup>	Shallow	Deep
Open feedlot; solids settling facility	200 feet	100 feet	200 feet	100 feet
Open feedlot runoff control basin	1,000 feet	400 feet	400 feet	400 feet

**7. Shallow well** is a well located and constructed in such a manner that there is not a continuous layer of low permeability soil or rock (or equivalent retarding mechanism acceptable to the department) at least 5 feet thick, the top of which is located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

**8. Deep well** is a well located and constructed in such a manner that there is a continuous layer of low permeability soil or rock at least 5 feet thick located at least 25 feet below the normal ground surface and above the aquifer from which water is to be drawn.

## Permit Application Procedures

To apply for a permit, submit the completed construction and/or operation permit application form (copies available from DNR offices and on the DNR website under Animal Feeding Operations at <http://www.state.ia.us/government/dnr/organiza/epd/wastewtr/feedlot/feedlt.htm>), along with the supplemental information listed below to:

Environmental Protection Division  
Iowa Department of Natural Resources  
Wallace State Office Building  
502 East Ninth Street  
Des Moines, IA 50319-0034

or call the Des Moines office at (515) 281-8941.

### Supplemental Information Required

1. **For Operation and Construction Permits:** submit information (e.g. maps, drawings, aerial photos, etc.) that clearly shows both the location of your feedlot and manure control system.
2. **For Construction Permits Only:** submit an engineering report and three (3) copies of construction plans and specifications, prepared by a licensed professional engineer in the state of Iowa or by the Natural Resources Conservation Service (NRCS), that describe in detail the feedlot and manure control system.

### Other Permit Requirements for New or Expanding Feedlots

- **Storm Water Permit:** The purpose of this permit is to provide details of how erosion will be controlled during construction. Producers who plan to build or expand a feedlot where the construction will disturb five (5) or more acres must first obtain a Storm Water Permit. Applications are available at the same Environmental Protection Division address listed above, care of the Storm Water Coordinator, or on the DNR website at <http://www.state.ia.us/government/dnr/organiza/epd/prgrmdsc/stormwtr/stormint.htm>. Producers should allow several weeks to prepare the application, because the application process includes preparing a pollution prevention plan that addresses how erosion will be minimized and publishing two public notices before the permit can be approved. Once a completed application and a \$150 fee have been submitted, the application only takes a few days to be approved. Details can be found in the permit application.
- **Water Withdrawal Permit:** Producers who intend to use more than 25,000 gallons of water per day must obtain a water use permit. The law applies to the use of water from wells, streams and reservoirs, gravel pits, quarries, and other sources. Applications are available at IDNR, Environmental Protection Division, Water Supply Section, 401 SW 7th Street, Suite "M," Des Moines, IA 50309-4611 or call (515) 725-0336. They are also available on the DNR website at <http://www.state.ia.us/government/dnr/organiza/epd/wtrsuply/wtrsup.htm>. Producers should submit a completed form, a \$25 fee, and a map showing the location of the proposed well and the location of the land where the water will be used.

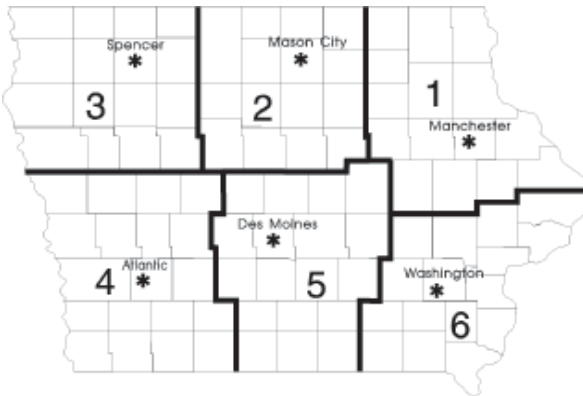
### Additional Help or Information

The DNR field office staff can help answer questions about bringing your feedlot into compliance with the rules.



Field office staff can also help you minimize damage in the case of a manure spill or release. If a spill or release occurs, you are required to report it to the DNR as soon as possible, but no later than six hours after its onset or after you discover it. To contact a DNR field office, call the DNR office that serves your county:

**Right: DNR field office staff** would prefer to help producers comply with the regulations rather than have an adversarial relationship with them.



Central Office Permitting	515- 281-8941
DNR Field Office 1, Manchester	319-927-2640
DNR Field Office 2, Mason City	641-424-4073
DNR Field Office 3, Spencer	712-262-4177
DNR Field Office 4, Atlantic	712-243-1934
DNR Field Office 5, Des Moines	515-281-9069
DNR Field Office 6, Washington	319-653-2135
Check the DNR website at <a href="http://www.state.ia.us/government/dnr/organiza/epd/">http://www.state.ia.us/government/dnr/organiza/epd/</a>	

**Disclaimer** Producers should consult Chapter 65 of the Iowa Administrative Code for more information and the actual wording of rules governing animal feeding operations. Consult Chapter 455B of the Iowa Code for actual wording of the laws governing animal feeding operations in Iowa.

## Publishing Information

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